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Record

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Washington University in St. Louis

'Real' stardust from mission lands on campus

By Susan Killenberg McGinn

Stardust, the NASA spacecraft mission, was given that name in hopes that the seven-year journey to capture comet samples would bring back to Earth, well, stardust.

In an article in a special issue of the journal Science, University researchers are the first to report that a sample they received from the mission actually does contain stardust — particles that are older than the sun.

"When the comet samples became available to analyze, one of the key scientific questions was to see whether this material also contained 'real stardust' particles," said Frank J. Stadermann, Ph.D., senior research scientist in physics in Arts & Sciences and a co-author of the article. "As it turned out, the one and only stardust particle in all of the analyzed comet samples was found right here in the St. Louis lab."

The findings appear in the Dec. 15, 2006, article "Isotopic Compositions of Cometary Matter Returned by Stardust." Stadermann, who is a sample adviser for the Stardust mission, also is a co-author on the six other reports about the mission's initial findings that appear in the special issue.

Launched Feb. 7, 1999, the Stardust spacecraft sped through the tail of Comet Wild-2 at 15,000 mph Jan. 2, 2004. For 15 minutes, the spacecraft extended a honeycomb-like collector, capturing cometary dust grains in 132 ice-cube-sized cells made of aerogel, a silicon-based solid that is 99.8 percent air and resembles frozen pale-blue smoke.

WUSTL IMAGE

Frank J. Stadermann, Ph.D., holds an image of one of the Stardust impact craters. Though not the crater where Stadermann's team found the stardust particle, it is a fairly typical impact crater.

After the sample-return capsule's safe landing on the Utah salt flats Jan. 15, 2006, particles — each much smaller than a grain of sand — from several of the collector's cells were extracted, sliced up and disbursed to 50 labs around the world for analysis. Of those 50 labs, called "preliminary examination groups," two are at the University.

In late February, Stadermann

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Big Read

Program to promote reading for pleasure

By Andy Clendennen

Ray Bradbury's vision of the future was a scary one indeed.

Of course, that's the point of being a science-fiction writer, but in his classic "Fahrenheit 451," Bradbury wrote about firemen who didn't put out fires. Rather, they started them in order to burn books and suppress learning and knowledge.

The book is the centerpiece of a National Endowment for the Arts (NEA)-supported program in February.

The Big Read, hosted by the University in partnership with several local organizations, will feature lectures, readings, art exhibits, theater productions, book discussion groups and film festivals featuring the themes of Bradbury's 1953 novel.

Modeled on successful "city read" programs, The Big Read is a national program designed to encourage literary reading by helping communities come together to read and discuss a single book.

Area sponsors include the Department of English in Arts & Sciences, local governments, library districts, school districts, museums, arts and literacy organizations, the Regional Arts Commission, KTVI-2 and HEC-TV.

The Big Read is an initiative of the NEA in partnership with the Institute of Museum and Library Services and Arts Midwest. The 2004 NEA report, "Reading at Risk: A Survey of Literary Reading in America," identified a critical decline in reading for

See **Big Read**, Page 6

Cancer risk may increase with too much dietary protein

By Jim Dryden

A great deal of research connects nutrition with cancer risk. Overweight people are at higher risk of developing post-menopausal breast cancer, endometrial cancer, colon cancer, kidney cancer and a certain type of esophageal cancer.

Now preliminary findings from School of Medicine researchers suggest that eating less protein may help protect against certain cancers that are not directly associated with obesity.

The research, published in the December issue of the American Journal of Clinical Nutrition, shows that lean people on a long-term, low-protein, low-calorie diet or participating in regular endurance exercise training have lower levels of plasma growth factors and certain hormones linked to cancer risk.

Fontana

"However, people on a low-protein, low-calorie diet had considerably lower levels of the plasma growth factor called IGF-1 [insulin-like growth factor 1] than equally lean endurance runners," said the study's first author Luigi Fontana, M.D., Ph.D., assistant professor of medicine and an investigator at the Istituto Superiore di Sanità in Rome. "That suggests to us that a diet lower in protein may have a greater protective effect against cancer than endurance exercise, independently of body fat mass."

The study involved three groups of people. The first ate a low-protein, low-calorie, raw food vegetarian diet and was made up of 21

See **Cancer**, Page 5

WUSTL athletics ranks No. 2

The University ranked second in the nation in the 2006-07 U.S. Sports Academy Directors' Cup Division III Fall Standings, the National Association of Collegiate Directors of Athletics (NACDA) announced in December.

"We're extremely pleased with our Directors' Cup Fall Standings," said Director of Athletics John Schael. "It's a positive reflection on the student-athletes who select Washington University for a quality experience in academics and intercollegiate athletics and, as well, for the coaches who provide leadership. However, we hold strong to the belief that the true measure of our success is the quality of experience enjoyed by our students."

WUSTL totaled 283 points, behind first-place Calvin College of Grand Rapids, Mich., with 322 points. The volleyball team (38-2) reached the national championship match for 90 points, while the women's cross country squad placed fourth at the NCAA Championships for 80 points.

The women's soccer team (17-3) tied for ninth (64 points), based on its appearance in the NCAA Tournament sectionals. The men's cross country team (25th, 24 points) and men's soccer team (12-4-2) (T-33rd, 25 points) wrapped up the Red and Green's scoring teams.

The Sports Academy Directors' Cup was developed as a joint effort between the NACDA and USA Today. Points are awarded based on each institution's finish in as many as 18 sports (nine men's and nine women's).

The Bears have finished in the top 10 the past four years, finishing seventh last year.

Pioneering Alzheimer's disease researcher Leonard Berg dies at 79

By Michael C. Purdy

Leonard Berg, M.D., the founder and former director of the Alzheimer's Disease Research Center, died Monday, Jan. 15, 2007, following a stroke. He was 79.

Berg, professor emeritus of neurology, received many awards and honors for his contributions to Alzheimer's research, including the Lifetime Achievement Award and the Public Service Award from the Alzheimer's Association, the Peter H. Raven Lifetime Award from the St. Louis Academy of Science and the School of Medicine Second Century Award.

"Leonard Berg was one of the most talented and respected physicians I have known," said Chancellor Emeritus William H. Danforth, M.D. "He was ahead of the rest of us in recognizing the importance of Alzheimer studies. We all trusted his judgment and wisdom."

Berg

Berg had two separate and distinguished careers in medicine — one for several decades as a clinician in private practice and a second one in research. In the 1970s, motivated by his work with patients, Berg started a discussion group in the Department of Neurology on dementias. With his colleagues in the department, he was able to develop a system for distinguishing healthy aging from the onset of very mild dementia. Based on that research, the National Institutes of Health (NIH) in 1979 awarded Berg, who was in private practice, and colleagues at the school a four-year grant to study both groups over time, conducting regular, detailed assessments of their mental and physical status as the subjects grew older. The early work formed the foundation for the systematized assessment of dementia and detection of early onset of Alzheimer's disease now in common use.

That study, known as the Memory and Aging Project (MAP), continues to this day, having studied a total of more than 3,000 volunteers during nearly 30 years. As neurologists, psychologists and pathologists have discovered that the process-

See **Berg**, Page 6

Immigration expert receives professorship in School of Law

BY JESSICA MARTIN

Stephen H. Legomsky, J.D., D.Phil., has been named the John S. Lehmann University Professor in honor of his outstanding scholarship, teaching, and service to the University, the School of Law, and the international community.

The new professorship was created through a charitable trust established by the late John Lehmann, a distinguished alumnus, lawyer and University trustee for more than 20 years. An installation ceremony will be held in the spring.

Legomsky

"Endowed professorships are an important vehicle for helping the University recognize and retain truly outstanding faculty," Chancellor Mark S. Wrighton said. "I am pleased that we are able to honor Steve's ever-expanding contributions with this new distinction. I am also deeply grateful to John Lehmann and his family for this recent gift to the law school, as well as the host of other significant gifts to the Washington University community through the years."

Kent D. Syverud, J.D., dean and the Ethan A.H. Shepley University Professor, said: "We are thrilled to be able to bestow this new professorship on Steve, whose many achievements place him among our most distinguished faculty. The Lehmann family's longstanding support of the school and their many contributions to the legal profession make this a particularly appropriate professorship with which to honor Steve."

A former actuary and member of the faculty since 1981, Legomsky is an internationally renowned scholar in immigration, refugee, and nationality law and policy.

He is the founding director of the school's Whitney R. Harris Institute for Global Legal Studies, a past chair of the University's Judicial Board and a past member of the University City Board of Education. An elected member of the American Law Institute, he has received many accolades, including the University's Arthur Holly Compton Faculty Achievement Award and its Founders Day Distinguished Faculty Award, the law school's Triennial Teaching Award and the American Immigration Lawyers Association's Elmer Fried Excellence in Teaching Award.

Legomsky is the author of numerous articles and several books on immigration and refugee law and other subjects. His coursebook, "Immigration and Refugee Law and Policy," has been the required text for immigration courses at 157 U.S. law schools.

He has testified before Congress; chaired several national committees; and advised several United States presidential administrations, the United Nations High Commissioner for Refugees, the immigration ministers of Russia and Ukraine, and several foreign governments.

As an ambassador for the McDonnell International Scholars Academy at WUSTL, he represents the institution for the University of Hong Kong. Legomsky has held visiting teaching and research positions in 10 countries.

A longtime St. Louis attorney, Lehmann graduated from the law school in 1910 and served on the University's Board of Trustees from 1941-1963. He co-founded a firm that pioneered the development of chemical treatment methods for oil field emulsions and for water. He later headed the firm's successor, Petrolite Corp., as well as its Tretolite Division and the Rock Hill Co.

Numerous members of the Lehmann family also have been prominent lawyers and business leaders, and have shown extraordinary support for the University.

In with the new The University's updated Web site recently went online, replacing the previous design that had been used for about three years. Key organizational changes make the site easier to navigate, with menus organized into one list on the left side of each page, a new search tool and directory link at the top of the page and a menu of quick links to the most popular pages. The homepage also includes two columns of news headlines and upcoming events and announcements. A Web advisory committee chaired by Mary Ellen Benson, assistant vice chancellor and executive director of publications, included members of the Office of Undergraduate Admissions, Student Union, Graduate Professional Council and others in discussions about updating the site. Visit the page at wustl.edu.

Knight class: Former Emerson head Knight brings high-profile CEOs to business course

BY SHULA NEUMAN

Following the success of last spring's Olin School of Business course taught by Charles F. "Chuck" Knight, former chairman and CEO of Emerson, in conjunction with Anjan V. Thakor, Ph.D., senior associate dean and the John E. Simon Professor of Finance, the school again is offering the class. As was so popular last year, "Creating Exceptional Value: Performance Without Compromise" will include a succession of high-profile CEO guest lecturers.

"There was a great deal of enthusiasm for the class last year among the students, alumni and other Washington University people who attended the lectures," Thakor said.

The class has grown from about 75 students last year to 90 this year — with 30 on a waiting list.

This year's offering has a few modifications. Previously, the class was open only to MBA students. Now, executive MBA and professional MBA students can participate in the two-credit-hour course, an increase from last year's 1.5 credit hours.

Unchanged is the opportunity for members of the WUSTL community to attend a simulcast of the guest lectures in Simon Hall's May Auditorium.

This year's speakers include Andrew C. Taylor, chair and CEO of Enterprise Rent-A-Car Co.; Lord John Browne, CEO of BP Amoco PLC; Philip J. Purcell III, president of Continental Investors LLC; August A. Busch III, chairman emeritus of Anheuser-Busch Cos. Inc.; Arthur F. Golden, partner at Davis Polk & Wardwell; Edward E. Whitacre Jr., chair and CEO of AT&T Inc.; and numerous high-level executives at Emerson.

The course is organized around Knight's 2005 book, "Performance Without Compromise: How Emerson Consistently Achieves Winning Results," which focuses on Emerson's process of transformation and success. The main focus in the book and the course is on leadership, processes and execution, with other themes such as innovation, growth and globalization, Thakor said.

Emerson executives will speak about decisions they made during times the company faced pressure and discuss the consequences of those choices. Guest speakers from other firms will discuss selected topics that fit within the overall themes of the course.

"Between the coursework and the speakers, students found the format incredibly useful," Thakor said. "With most case studies, students know they can go to a Web site and find out what happened. You can't do that for this class because there isn't a solution. We're looking more at the thought process."

Last year's guest speakers enjoyed the experience as much as the students did, Thakor said.

"Jack Welch [former CEO of General Electric Co.] sent an e-mail to Chuck Knight after he had spoken with the class," Thakor said. "Welch said that he'd been to a dozen top business schools and that Olin's students were as good a group of students as he's ever seen. The class made a good impression on the CEOs."

For more information on the simulcast lectures, call 935-6300.

University adopts formal demonstration, disruptions policy

BY ANDY CLENDENNEN

The University has adopted a comprehensive policy to address demonstrations and disruptions on campus.

As outlined in the policy, the aim is to protect the rights of free speech, assembly and expression by making its facilities available for the appropriate exercise of these rights, including peaceful assembly.

"The University has long welcomed members of the academic community to discuss and demonstrate concern about important issues as long as the activity does not interfere with the rights of others, does not disrupt the operations of the University and is carried out in a safe and lawful way," said John E. Klein, executive vice chancellor for administration.

"Unlike many of our peer institutions, Washington University has never had a formal policy addressing demonstrations and disruptions," Klein noted. "The absence of such a policy has, at times, left the community questioning what may or may not be appropriate. The newly adopted policy statement incorporates suggestions from students and faculty members alike and is intended to help define the University's expectations for peaceful demonstrations. The policy also helps to facilitate event planning and furthers equitable availability of space to all viewpoints."

The policy, recently reviewed by the University Council and formally adopted by the Board of Trustees, is the result of a consensus-building process that started last spring.

Assistant Vice Chancellor for Students and Director of Campus Life Jill E. Carnaghi, Ph.D., was an invited speaker at the Student Union Senate in the spring to discuss the issues to be covered in the policy and met again with the senate this fall to review a draft of the proposed policy.

The senate is a group of 26 elected student representatives from all five undergraduate schools. Its purpose is to be the official voice for and take stances on behalf of the undergraduate student body on issues of campus-wide importance, a role that encompasses the demonstration policy, as well as actively working on projects that improve the resources and services the University provides for students. The senate accepted the draft.

"The most critical aspect of drafting this policy, at least in my perspective, is that it in fact protects, not restricts, students' rights to free speech," said Jeff Zove, speaker of the Student Union Senate from April 2005-April 2006. "It visibly states the University's value of that right to free speech and the guidelines to ensure that it is done in a safe manner and does not prevent the University from continuing its primary function of providing education for its students.

"This policy shows that the University values free speech and activist demonstrations and sets the expectations students would have should they choose to protest and the ways to go about doing it," Zove added.

Robert E. Thach, Ph.D., dean of the Graduate School of Arts & Sciences, distributed a draft of the proposed policy this fall to the members of the Graduate Professional Council for their discussion and received their input. The Graduate Professional Council is a group of 16 elected student representatives from the University's graduate and professional schools, with two representatives from each graduate or professional school.

Klein also held two meetings with the Faculty Senate Council, led by Mark Rollins, Ph.D., chair of philosophy in Arts & Sciences. In the first meeting last spring, the issues to be covered by the policy were discussed. In the second meeting this fall, the draft of the proposed policy was reviewed and found acceptable.

"Given the consensus among student and faculty representatives that the proposed policy balanced these important issues fairly and appropriately for Washington University, the policy was submitted to the University Council and the Board of Trustees and formally approved. It is a simple, one-page document, and we hope that all members of the University community will read the policy on the University's Web site," Klein said.

For the complete policy, visit wustl.edu/policies/demonstrations-and-disruption.html.

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School of Medicine Update

WUSTL expertise helps bring 'Ferrill Five' into world

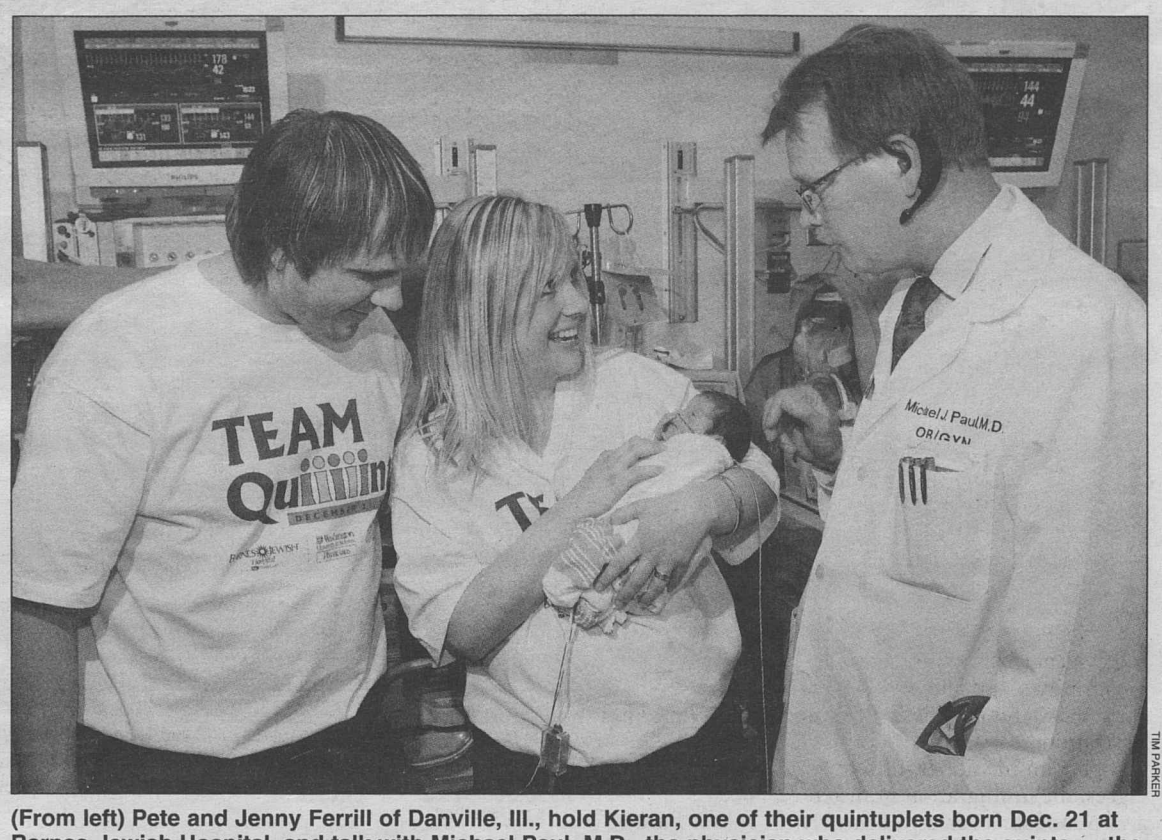
BY DIANE DUKE WILLIAMS

On Dec. 21, 2006, Michael Paul, M.D., led a team of 100 physicians, nurses, paramedics and other staff to deliver the "Ferrill Five," two girls and three boys, at Barnes-Jewish Hospital. The parents are Pete and Jenny Ferrill of Danville, Ill.

These babies were the first quintuplets to be delivered through the Washington University Center for Multiple Births and also the first quints born in the 92-year history of Barnes-Jewish Hospital.

Irelyn Kadyn, Kieran Skye, Landyn Konner, Layne Mykel and Drayden Karter each weighed at least 3.25 pounds and are doing well, although they are expected to stay in the neonatal intensive care unit at St. Louis Children's Hospital until late February.

Paul and other physicians started the Center for Multiple Births in 1992 in response to a dramatic increase in the number of multiples due to in vitro fertilization and other fertility treatments. The center is one of only a handful of centers nationwide focusing on this specialty. Physicians at the center now deliver an average of 50 sets of twins, 15 sets of triplets and one set of quadruplets each year.



TIM PARKER

(From left) Pete and Jenny Ferrill of Danville, Ill., hold Kieran, one of their quintuplets born Dec. 21 at Barnes-Jewish Hospital, and talk with Michael Paul, M.D., the physician who delivered the quints — the first set ever at Barnes-Jewish Hospital. The Ferrills had three boys and two girls.

"These women need to be monitored more closely because they are at high risk of developing preterm labor as well as abnormalities in their babies' growth," said Paul, associate professor of obstetrics and gynecology and director of the center. "They also need nutritional guidance and extra support."

A woman pregnant with triplets, for example, needs to eat at least six meals a day and consume an extra 1,000 calories. Patients at the center meet with a nutritionist regularly and receive advice on high-fat, high-calorie foods.

"We want them to eat rice, potatoes, milkshakes and even cheesecake," Paul said. "We also recommend that they eat a meal in the middle of the night."

Babies born prematurely often have neurological problems, including cerebral palsy; severe vision or hearing impairment; and cognitive, behavioral and social delays.

Paul and the three other physicians on staff have gained a greater understanding of cervical incompetence and other causes of preterm labor, which has improved the neurodevelopment of babies delivered at the center.

Women who have multiples also face an increased risk of postpartum depression, and the divorce rate among these parents exceeds 70 percent, according to Paul. The center's staff is keenly aware of the stressors parents of multiples face long-term and goes to great lengths to connect them with national and local parenting organizations that offer resources and support.

Paul said treating the mothers-to-be and delivering babies is extremely rewarding. "The real payoff is getting Christmas cards from these families and seeing that these children are developing normally," he said.

Abundance of common microbes in the gut may contribute to obesity

BY CAROLINE ARBANAS

School of Medicine researchers have found a link between obesity and the microbial communities living in our guts.

The findings indicate that our gut microbes are biomarkers, mediators and potential therapeutic targets in the war against the worldwide obesity epidemic.

In two studies published last month in the journal Nature, the scientists report that the relative abundance of two of the most common groups of gut bacteria is altered in obese humans and mice. By sequencing the genes in gut microbial communities of obese and lean mice and by observing the effects of transplanting these communities into germ-free mice, the researchers showed that the obese microbial community has an increased capacity to harvest calories from the diet.

"The amount of calories you consume by eating and the amount of calories you expend by exercising are key determinants of your tendency to be obese or lean," said lead investigator Jeffrey I. Gordon, M.D., director of the Center for Genome Sciences and the Dr. Robert J. Glaser Distinguished University Professor of Molecular Biology and Pharmacology. "Our studies imply that differences in our gut microbial ecology may determine how many calories we are able to extract and absorb from our diet and deposit in our fat cells."

Gordon

That is, the same bowl of cereal may not yield the same number of calories for each person depending upon their collection of gut microbes. "The differences don't have to be great, but over the course of a year the effects can add up," Gordon said.

Trillions of friendly microbes reside in the intestine, where they help digest food that the body can't on its own, such as the complex sugars found in grains, fruits and vegetables. As part of the digestive process, the microbes break down nutrients to extract calories that can be stored as fat.

The researchers focused on two major groups of bacteria — the Bacteroidetes and the Firmicutes — that together make up more than 90 percent of microbes found in the intestines of mice and humans. In an earlier study, they compared genetically obese mice and their lean littermates. The obese mice had 50 percent fewer Bacteroidetes and proportionately more Firmicutes. Moreover, the differences were not due to a bloom of one species in the Firmicutes or a diminution of a single or a few species of Bacteroidetes: virtually all members of each group were altered.

"The amount of calories you consume by eating and the amount of calories you expend by exercising are key determinants of your tendency to be obese or lean. Our studies imply that differences in our gut microbial ecology may determine how many calories we are able to extract and absorb from our diet and deposit in our fat cells."

JEFFREY I. GORDON

In one of the Nature articles, Ruth Ley, Ph.D., a microbial ecologist in Gordon's group, reports on her investigation into whether these findings were true among obese humans. She followed 12 obese patients at a WUSTL weight loss clinic for a one-year period. Half the patients were on a low-calorie, low-fat diet, and half were on a low-calorie, low-carbohydrate diet.

At the outset of the study, the obese patients had the same type of depletion of Bacteroidetes and relative enhancement of Firmicutes as the obese mice. As the patients lost weight, the abundance of the Bacteroidetes increased and the abundance of Firmicutes decreased, irrespective of the diet they were on. Moreover, the entire group of Bacteroidetes increased as patients lost weight.

In a companion paper in the same journal, Peter Turnbaugh, a doctoral student in Gordon's lab, compared the genes present in the gut microbial communities of the obese and lean mice using the newest generation of massively parallel DNA sequencers.

The results of these comparative metagenomic studies revealed that the obese animals' microbial community genome had a greater capacity to digest polysaccharides, or complex carbohydrates. By transferring the gut microbial communities of obese and lean mice to germ-free mice, he confirmed that the obese microbial community prompted a significantly greater gain in fat in the recipients.

These studies raise a number of questions, according to Gordon. "Are some adults predisposed to obesity because they 'start out' with fewer Bacteroidetes and more Firmicutes in their guts?" he asked. "Can features of a reduced-Bacteroidetes Firmicutes-enriched microbial community become part of our definition of an obese state or a diagnostic marker for an increased risk for obesity?"

Tobacco-free policy effective April 2 for medical school

BY BETH MILLER

Larry J. Shapiro, M.D., executive vice chancellor and dean of the School of Medicine, and the Executive Faculty have approved the Tobacco-Free Policy for the school, which goes into effect April 2.

The new policy, available online at healthyliving.wustl.edu, applies to all medical school buildings as well as all owned or occupied property, including parking lots and garages, personal vehicles parked on school property, University-owned vehicles and all leased property.

Last week, the medical school began offering free six-week "Freedom From Smoking" classes at the Barnard Health and Cancer Information Center on the first floor of Siteman Cancer Center. Schedules and registration forms for the next classes that begin in February and March soon will be available at healthyliving.wustl.edu. Registration is on a first-come, first-served basis and also is open to Danforth Campus employees.

In addition, employees are eligible for smoking-cessation telephone counseling through the Call-2-Quit study, which offers free telephone support and advice to help smokers become non-smokers.

Those who enroll in the study will have seven 20-minute telephone sessions with trained smoking-cessation coaches, who help explore reasons and motivations for smoking, identify key situations that trigger the urge to smoke and prepare participants for the challenges of quitting.

After a participant stops smoking, the remaining calls provide support and coping techniques. Study participants also will have two follow-up assessments.

For more information or to participate in the study, which is open to University employees and appointees at all campuses, call 1-866-902-QUIT (7848).

Participants in the Freedom From Smoking classes and Call-2-Quit may be eligible to purchase smoking-cessation aids at a substantial discount.

Smoking shelters will be removed from medical school property by April 2. Additional signs communicating the school's policy will be placed around the medical school property and facilities.

"Our goal in implementing this policy is to provide a clean and healthy work and patient-care environment for everyone, to reduce the toll of tobacco-related illness and to reduce tobacco use among employees, students, visitors and patients interested in quitting," Shapiro said. "As a health-care organization, this is the right thing to do."

On Jan. 1, the five University health-insurance plans began to cover two prescription drugs when prescribed for the purpose of smoking cessation. Wellbutrin and Zyban are covered as "tier-three" drugs on the United Healthcare and Blue Cross prescription drug tier listings.

There also are various community organizations that offer resources on quitting, counseling and other services for little or no cost, such as the American Cancer Society, American Lung Association, Nicotine Anonymous, Smokefree.gov and others.

The human resources office at the medical school and healthyliving.wustl.edu have lists of other community resources and fitness and wellness facilities at or near the school that are available to employees at a discount.

University Events

Architecture students build Grand Center plaza

BY LIAM OTTEN

Ten architecture majors from the Sam Fox School of Design & Visual Arts designed and built a public plaza for visual art in Grand Center that was dedicated Dec. 15. The project, begun last fall, teamed the students with Grand Center Inc., a non-profit organization that develops district arts initiatives and real estate, and the Pulitzer Foundation for the Arts.

The plaza — located immediately south of the Saint Louis Symphony Orchestra's Powell Symphony Hall at 718 North Grand Blvd. — will host outdoor exhibitions, site-specific installations, performance pieces and video and new-media work by local and nationally known artists, as well as information about Grand Center programs and events.

"This has been a pretty remarkable project," said Carl Safe, professor of architecture, who led the semester-long studio. "It's a significant contribution to the streetscape, connecting Powell Hall with the block to the south. But the timeline was very short, and students had to do a lot of learning very quickly."

Safe has shepherded a number of similar design-build projects over the years, including wooden shade pavilions for the University City Post Office and Market in the Loop in the 6600 block of Delmar Boulevard. Yet he says the Grand Center plaza represents a new scale and level of complexity.

Built on a former parking lot, the plaza is divided into two zones. A grassy area is located at the northern end, while the southern end is filled with 21 eight-foot steel poles designed to accommodate a variety of modular display panels. When not in use, those panels are stored in a long, shallow enclosure formed by two overlapping masonry walls on the plaza's eastern edge. A small glass-enclosed gallery is located at one end of the storage space, which also houses a pair of Web-ready video projectors. Dozens of flood lamps set into the concrete foundation provide dramatic lighting.

KEVIN LOWDER

Carl Safe (center) helps students cut the ribbon at the Grand Center plaza dedication Dec. 15.

"We were given a budget of about $45,000, but that doesn't fully convey the scope of things," Safe said. "If you were to bid this work out, it could easily have been $200,000 to $250,000. It's a minor miracle that we were able to get everything completed.

"Students did an amazing job of getting materials donated and services volunteered," Safe continued. "One company donated the block, another donated the mortar, another donated grout to fill the wall. We got reinforcing steel for 26 cents on the dollar. They were unbelievably resourceful."

The entire project was completed in about 14 weeks. Design conception began in late August 2006, with each student developing an individual proposal. By mid-September, the students had formed teams and focused their efforts on two designs, which were presented to a review board consisting of Carmon Colangelo, dean of the Sam Fox School; Peter Bunce, interim arts initiative director for Grand Center; and Matthias Waschek, director of the Pulitzer Foundation.

Once the final design was selected, students began defining budgets, finishing construction documents and applying for city building permits. The class then turned to actual construction, surveying the site and hauling 83 tons of gravel by wheelbarrows to create a solid sub-surface. The students built the concrete formworks, threaded steel rebar and worked with apprentices from the St. Louis Cement Masons Joint Apprenticeship Program, the Masonry Institute of St. Louis and the Ironworkers Joint Apprenticeship Program.

"We had a lot of help from the professional trades," said Ivo Rozendaal, a graduate student in architecture. "We could not have gotten this far without their help. It's amazing how many companies have come out here to support us."

Though programming details are still taking shape, the plaza's display space was designed to be flexible.

"The poles basically serve as an armature for artists to work within," Rozendaal said. "We're providing a 'starter set' of panels in a variety of materials, but they could be anything an artist wanted: solid or fabric, opaque or transparent. Projections could relate to an artist's work or include video or just be changing colors. The space is really open to interpretation."

The plaza adds another dimension to Grand Center, St. Louis' premier arts and entertainment district and home to cultural organizations such as the Fox Theatre, The Sheldon Concert Hall, the Pulitzer Foundation for the Arts and the Contemporary Art Museum St. Louis.

"The goal is to bring a little more street-life to the area," Rozendaal continued. "A lot of people just come down for the shows. We want them to stick around afterwards and bring some more vibrancy to the community."

Is it Natural to be Moral? • Unruly Women • Lighting Design

"University Events" lists a portion of the activities taking place Jan. 18-Feb. 1 at Washington University. Visit the Web for expanded calendars for the Danforth Campus (calendar.wustl.edu) *and the School of Medicine* (medschool.wustl.edu/calendars.html).

Exhibits

School of Medicine Student, Faculty & Staff Art Show '07 Through Feb. 26. Farrell Learning & Teaching Center, First Floor Atrium. wattsond@msnotes.wustl.edu.

Lectures

Friday, Jan. 19

9:15 a.m. Pediatric Grand Rounds. "The New Genetics of Cystic Fibrosis." Mitch Drumm, assoc. prof. of pediatrics, Case Western Reserve U. Clopton Aud., 4950 Children's Place. 454-6006.

3 p.m. Chemistry Seminar. Peter Khalifah, prof. of chemistry, U. of Mass. McMillen Lab., Rm. 311. 935-6530.

7:30 p.m. Saint Louis Astronomical Society Meeting. "So You Have a Telescope? Now What?" McDonnell Hall, Rm. 162. 935-4614.

Monday, Jan. 22

11 a.m. Midwest Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research Guest Lecture. "Pathogen Discovery: Challenges and Opportunities." Larry Anderson, dir., div. of viral diseases, Centers for Disease Control, Atlanta. Farrell Learning & Teaching Center, Holden Case Study Rm. 286-0432.

Noon. Physics Theory Brown Bag Seminar. "Density Functional Theory for Quasi-particle Properties." Dimitri Van Neck, lab. of theoretical physics, Ghent U., Belgium. Compton Hall, Rm. 241. 935-6276.

Noon. Work, Families and Public Policy Brown Bag Seminar Series. "Modeling Informality Formally: Households and Firms." Sebastian Galiani, assoc. prof. of economics. Eliot Hall, Rm. 300. 935-4918.

4 p.m. Immunology Research Seminar Series. "The Yin and Yang of Granzyme B." Tim Ley, Alan A. and Edith L. Wolff Professor of Medicine. Farrell Learning & Teaching Center, Connor Aud. 362-2763.

5:30 Cardiac Bioelectricity & Arrhythmia Center Seminar Series. "Lipotoxicity: Getting to the Heart of the Matter." Jean Schaffer, assoc. prof. of medicine. (5 p.m. reception.) Whitaker Hall, Rm. 218. 935-7887.

6:30 p.m. Sam Fox School Architecture Lecture Series. Givens Alumni Lecture. "Lighting Design as Exploration." Paul Zaferiou, president & principal, Lam Partners Inc., Boston. Lab Sciences Bldg., Rm. 300. 935-6200.

Tuesday, Jan. 23

4 p.m. Chemistry Seminar. "Hypervalent Iodine Heterocycles and Pseudoheterocycles as Reagents for Organic Synthesis." Viktor Zhdankin, prof. of chemistry & biochemistry, U. of Minn., Duluth. McMillen Lab., Rm. 311. 935-6530.

4 p.m. Women & Gender Studies Program Lecture. "Queen Latifah, Unruly Women and the Bodies of Romantic Comedy." Linda Mizejewski, prof. of English and chair of women's studies, Ohio State U. Duncker Hall, Rm. 201, Hurst Lounge. 935-5102.

Wednesday, Jan. 24

4 p.m. Center for Materials Innovation and Physics Join Colloquium. "Orbital Magnetization in Periodic Solids." Timo Thonhauser, prof. of materials science & engineering, Mass. Inst. of Technology. (3:30 p.m. coffee, Compton Hall, Rm. 245.) Crow Hall, Rm. 204. 935-6276.

4 p.m. Division of Biology & Biomedical Sciences "Frontiers in Human Pathobiology" Lecture Series. Jean Schaffer, assoc. prof. of medicine. Farrell Learning & Teaching Center, Holden Aud. 362-4806.

4 p.m. St. Louis NMR Discussion Group. "Spin-lattice Relaxation of Heavy Nuclei in Crystalline Solids by Spin-rotation Coupling to Lattice Vibrations." Alexander Vega, sr. research scientist, U. of Del. McMillen Lab., Rm. 311. 935-6276.

How to submit 'University Events'

Submit "University Events" items to Genevieve Posey via:
e-mail — recordcalendar@wustl.edu
campus mail — Campus Box 1070
fax — 935-4259

Thursday, Jan. 25

Noon. Genetics Seminar Series. "Modeling and Design of Protein-DNA Interfaces." James Havranek, dept. of biochemistry, U. of Wash., Seattle. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

3 p.m. Chemistry Seminar. "Structure Determination of Nanocrystals, Fibrils and Membrane Proteins by Magic-angle Spinning Solid-state NMR." Chad Rienstra, asst. prof. of chemistry, U. of Ill. McMillen Lab., Rm. 311. 935-6530.

3 p.m. Physics Theory Seminar. "Low-momentum Interactions and the Nuclear Many-body Problem." Dick Furnstahl, prof. of physics, Ohio State U. (2:45 p.m. coffee.) Compton Hall, Rm. 241. 935-6276.

Friday, Jan. 26

9:15 a.m. Gene Therapy for Genetic Deficiencies: Success is Just Around the Corner. Kathy Ponder, assoc. prof. of medicine. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell Biology & Physiology Seminar. "Synchronous and Asynchronous Exocytosis from Canine Pancreatic Islet Beta Cells: A Minimal Model for Biophasic Insulin Secretion." Stanley Misler, assoc. prof. of cell biology & physiology. McDonnel Medical Sciences Bldg., Rm. 426. 362-6950.

Monday, Jan. 29

4 p.m. Immunology Research Seminar Series. "Beneficial Mutation in Adaptive and Innate Immunity." Nina Papavasiliou asst. prof. of lymphocyte biology, Rockefeller U. Farrell Learning & Teaching Center, Connor Aud. 362-2763.

5:30 p.m. Cardiac Bioelectricity & Arrhythmia Center Seminar Series. Sandor Kovacs, asst. prof. of medicine. (5 p.m. reception.) Whitaker Hall, Rm. 218. 935-7887.

Tuesday, Jan. 30

8:30 a.m.-4 p.m. Center for the Application of Information Technology Two-day Workshop. "Marketing the IT Organization Internally." (Continues 8:30 a.m.-4 p.m. Jan. 31.) Cost: $1,210, reduced fees available for CAIT member organizations. CAIT, 5 N. Jackson Ave. 935-4444.

Noon. Program in Physical Therapy Research Seminar. "Prevalence of Diastasis Recti Abdominis in a Urogynecological Patient Population." Tracy Spitznagle, instructor in physical therapy. 4444 Forest Park Blvd., Lower Lvl., Rm. B108. 286-1404.

Wednesday, Jan. 31

7 p.m. Science on Tap Lecture. "Is it Natural to be Moral?" Ursula Goodenough, prof. of biology. Schlafly Bottleworks, 7260 Southwester Ave., Crown Room. 935-5285.

Thursday, Feb. 1

Noon. Genetics Seminar Series. "Collaborate or Collapse: Experimental and Mathematical Analyses of a Synthetic Cooperative System." Wenying Shou, computational biology center, Memorial Sloan-Kettering Cancer Center, New York. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

4 p.m. Ophthalmology Visual Sciences Seminar. "Crx Activates Photoreceptor Gene Transcription by Promoting Chromatin Remodeling." Shiming Chen, assoc. prof. of ophthalmology & visual sciences. Maternity Bldg,. Rm. 725. 362-3315.

On stage

Friday, Jan. 19

7:30 p.m. OVATIONS! Series. "Hana's Suitcase" by Emil Sher. Co-presented by Metro Theater Company. (Also 7:30 p.m. Jan. 20, 2 p.m. Jan 20 & 21.) Cost: $15, $12 for students, seniors, WUSTL faculty & staff. Edison Theatre. 935-6543.

Tuesday, Jan. 23

7:30 p.m. Performing Arts Department Presentation. "The Dead Father: Dances by Paul D. Mosley." Paul D. Mosley, choreographer. Mallinckrodt Student Center, Rm. 207, Annelise Mertz Dance Studio. 935-5858.

Friday, Jan. 26

8 p.m. OVATIONS! Series. "Civil Rights Reader." DBR & the Mission SQ Unit. Cost: $30, $25 for seniors, WUSTL faculty & staff, $18 for students & children. Edison Theatre. 935-6543.

Sports

Friday, Jan. 19

6 p.m. Swimming & diving. WUSTL Invitational. (Also 11 a.m. Jan. 20.) Millstone Pool. 935-4705.

6 p.m. Women's basketball vs. U. of Rochester. Athletic Complex. 935-4705.

8 p.m. Men's basketball vs. U. of Rochester. Athletic Complex. 935-4705.

Sunday, Jan. 21

Noon. Men's basketball vs. Carnegie Mellon U. Athletic Complex. 935-4705.

2 p.m. Women's basketball vs. Carnegie Mellon U. Athletic Complex. 935-4705.

Friday, Jan. 26

6 p.m. Women's basketball vs. Carnegie Mellon U. Athletic Complex. 935-4705.

8 p.m. Men's basketball vs. Brandeis U. Athletic Complex. 935-4705.

Sunday, Jan. 28

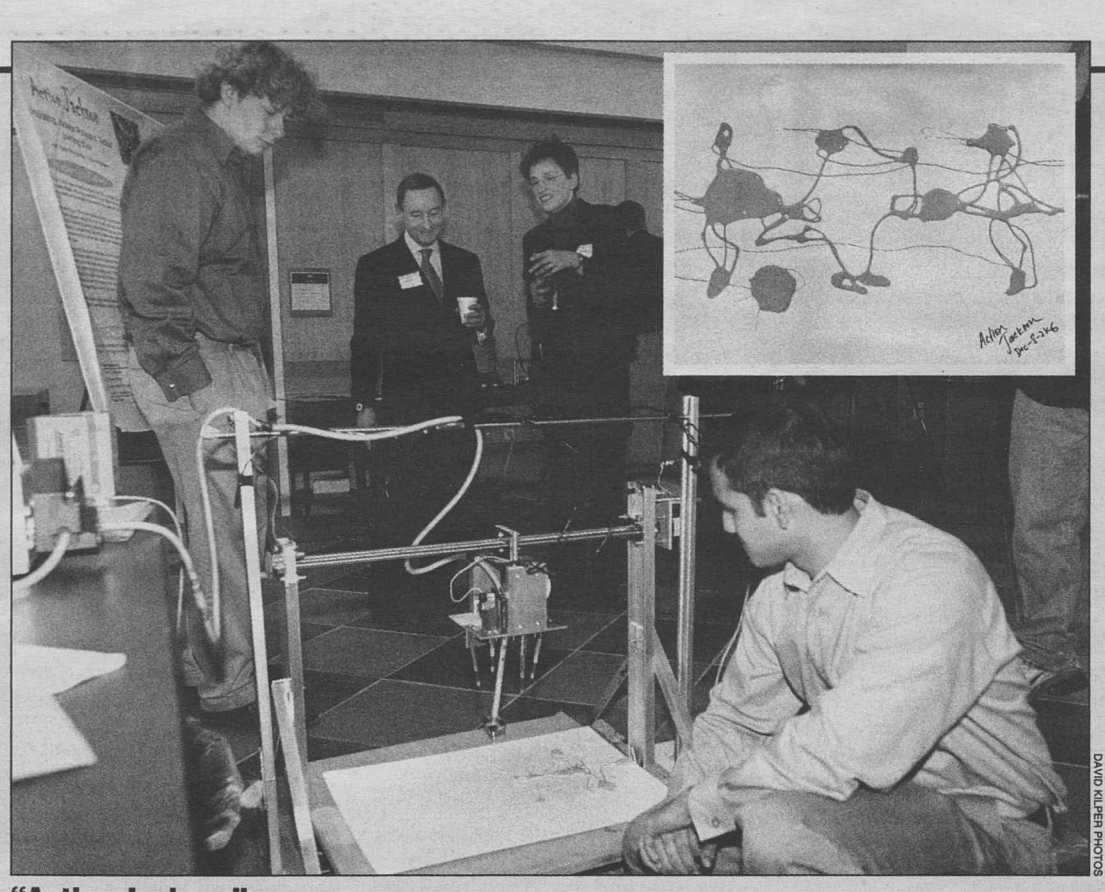
Noon. Men's basketball vs. New York U. Athletic Complex. 935-4705.

2 p.m. Women's basketball vs. New York U. Athletic Complex. 935-4705.

And more

Thursday, Jan. 18

6 p.m. University-wide Green Forum. Wilson Hall, Rm. 214. 935-5916, president@su.wustl.edu, su.wustl.edu.



DAVID KILPER PHOTOS

"Action Jackson" **Mechanical and aerospace engineering seniors Topher McFarland (left) and Rahul Bhinge (kneeling) demonstrate their creation, a computer artist nicknamed "Action Jackson" designed to paint in the style of Jackson Pollock, for Chancellor Mark S. Wrighton and Ruth J. Okamoto, D.Sc. (center), assistant professor of mechanical and aerospace engineering, at the Dec. 8 Mechanical and Aerospace Engineering Design Fair in Whitaker Hall. Fellow senior John Beltz (not pictured) helped develop the painting prototype. "Action Jackson" was one of the fair's 23 projects — from a machine that throws dice to one that opens window blinds — created by 57 students as part of a senior class project. Inset: A painting by "Action Jackson."**

Lighting designer opens lecture series

By Liam Otten

Lighting designer Paul A. Zaferiou will launch the Sam Fox School of Design & Visual Arts spring Architecture Lecture Series at 6:30 p.m. Jan. 22.

Zaferiou ('75) will present the 2007 Givens Alumni Lecture, titled "Lighting Design as Exploration." Zaferiou is president and principal of Lam Partners Inc., a lighting consulting firm based in Cambridge, Mass. He has worked on a wide range of educational, institutional and transportation projects, including the Guggenheim Museum in Bilbao, Spain; The Getty Villa in Malibu, Calif.; the Boston Convention & Exhibition Center; and the Metropolitan Kansas City Performing Arts Center.

In St. Louis, Zaferiou worked on two buildings for the School of Medicine: the Spencer T. Olin Residence Hall and the Pediatrics Biomedical Research Building. Other area projects include the Saint Louis Science Center's IMAX Theater, Mercantile Bank Plaza, the Stix Early Childhood Center and the Pere Marquette Gallery at Saint Louis University's DuBourg Library.

The lecture series continues at 6:30 p.m. Jan. 29 with Winy Maas, a principal of MVRDV in Rotterdam, the Netherlands.

Maas co-founded MVRDV in 1991 with partners Jacob van Rijs and Nathalie de Vries. (The firm's name is an acronym for Maas-van Rijs-de Vries.) Today MVRDV is internationally known both for innovative architecture and for experimental research projects relating to population density and open-space issues. Major works include the dramatically cantilevered WOZOCO apartments for seniors and the Silodam housing complex, both in Amsterdam, the Netherlands; the Matsudai Cultural Centre in Japan; the Dutch pavilion at Expo 2000 in Hanover, Germany; and headquarters for VPRO, a public broadcasting company in Hilversum, the Netherlands.

In 2003, Maas was a finalist for the Mies van der Rohe Award for European Architecture, and in 2004, he won the Amsterdam Art Prize. In 2005, MVRDV received the inaugural Marcus Prize for emerging architects.

Both talks are free and open to the public and take place in the Arts & Sciences Laboratory Sciences Building, Room 300. For more information, call 935-9300 or visit www.arch.wustl.edu.

Other speakers in the series include:

Feb. 19: Bruce Lindsey, dean, College of Architecture/Graduate School of Architecture & Urban Design, on "Collective Practice"

March 5: John Hoal, Ph.D., associate professor and co-director of the architecture undergraduate program

April 13: Rick Lowe, artist, Project Row Houses, Houston, on "Toward Social Sculpture"

April 23: Sean Godsell, architect, Sean Godsell Architects, Melbourne, Australia.

Cancer

– from Page 1

lean men and women. Another group consisted of 21 lean subjects who did regular endurance running, averaging about 48 miles per week. The runners ate a standard Western diet, consuming more calories and protein than Group One. The third group included 21 sedentary people who also consumed a standard Western diet, higher in sugars, processed refined grains and animal products. The subjects were matched for age, sex and other demographic factors, and no one smoked or had diabetes, cardiovascular disease, cancer, lung disease or other chronic illness.

Subjects in the low-protein group averaged a daily intake of 0.73 grams of protein per kilogram of body weight. Endurance runners ate 1.6 grams and sedentary people on the Western diet ate 1.23 grams. The recommended daily allowance for protein intake is 0.8 grams, or about three ounces of protein daily for a 220-pound man.

"It's interesting to us that both the runners and especially the sedentary people consumed about 50 percent more protein than recommended," Fontana said. "We know that if we consume 50 percent more calories than recommended, we will become obese. But there is not a lot of research on whether chronic over-consumption of protein also has harmful effects."

Fontana and colleagues found significantly lower blood levels of plasma IGF-1 (a powerful growth factor that promotes cell proliferation) in the low-protein diet group than in either the equally lean runners or the sedentary people eating a standard Western diet. Past research has linked pre-menopausal breast cancer, prostate cancer and certain types of colon cancer to high levels of IGF-1. Data from animal studies also suggest that lower IGF-1 levels are associated with maximal lifespan.

"Our findings show that in normal-weight people, IGF-1 levels are related to protein intake, independent of body weight and fat mass," Fontana said. "I believe our findings suggest that protein intake may be very important in regulating cancer risk."

Fontana said more research is needed to clarify what that connection is.

The researchers also found that the group of endurance runners in the study consumed the highest number of calories, averaging more than 2,600 per day. Those on a standard Western diet consumed slightly more than 2,300 calories daily, while those in the low-calorie, low-protein group ate slightly fewer than 2,000 calories a day.

Members of the low-calorie, low-protein group also tended to weigh less than sedentary people but slightly more than the endurance runners. The average body mass index (BMI) in the low-protein, low-calorie group was 21.3. Among the runners, BMI averaged 21.1, and among those who were sedentary, 26.5. BMI is a measurement of weight divided by height squared. People with a BMI greater than 25 are considered overweight.

Fontana said most of us don't eat nearly enough fruits and vegetables or enough whole-grains, cereals or beans. "Many people are eating too many animal products — such as meat, cheese, eggs and butter — as well as refined grains and free sugars," he said. "Our intake of vegetables and fruits is low, and beans are vastly underconsumed in the U.S. and Europe these days."

He said he believes diets would be healthier if we ate more whole grains, beans, fruits and vegetables and far fewer animal products. He recommends mostly fish, low-fat dairy products and, occasionally, some red meat. Such a diet would both cut total calories and reduce the amount of protein we consume to a level closer to the range recommended by the nutrition experts of the Food Nutrition Board of the National Academy of Sciences. It also might result in lower levels of IGF-1.

Breaking the cycle of poverty through financial education

By Jessica Martin

In remembrance of Dr. Martin Luther King Jr., the Society of Black Student Social Workers (SBSSW) at the George Warren Brown School of Social Work will host a "Financial Freedom Semnar: Achieving Economic Independence Through Education," from 8:30 a.m.-3 p.m. Jan. 20 in Brown Hall.

The event is designed for members of the St. Louis community interested in building wealth, maintaining good credit, purchasing a home or starting a business. The event is free, but participants must register.

"SBSSW's goal is to present the King holiday not as a tradition or a history lesson, but as a call to action to fight for economic and social justice," said Charletra Hurt, SBSSW co-chair and first-year social-work student.

"Financial management resources are often not easily accessible through local institutions for African-Americans," Hurt continued. "In addition, these resources are usually presented with language or examples that do not capture the attention or address issues relevant to African-Americans. More information is needed to help African-Americans to wisely manage their resources and use their economic base to break cycles of poverty and build assets."

Seminar participants will be able to attend two of the following workshops:

• "Everything You Need to Know About Your Credit," which includes information on repairing and improving credit and the impact good credit has on purchases, employment opportunities and bank accounts

• "Qualifying to Buy a Home," which covers obstacles to the process and ways to overcome them

• "Becoming Debt-free," which offers financial tools and disciplines

• "Don't Borrow Trouble," which explores some of the predatory lending tactics used by unscrupulous lenders

• "Wealth Accumulation: With or Without Business," which offers information on how to build sustainable wealth by making informed financial decisions, as well as tips on starting a successful small business

• "Financial Planning," which explores investment options to make money work for investors and tips on how to plan for a secure financial future

• "Life After Prison, Who Cares?" which includes methods to help transition back into the community and discussion of reentry, child support, and employment issues and solutions

The seminar will begin with a keynote address by John Bryant, founder, chair and CEO of Operation HOPE Inc., a non-profit organization and leading national provider of economic empowerment tools and services for the underserved.

For more information and to register, call 935-9116 or e-mail specialevents@gwbmail.wustl.edu.

Sports

Men's hoops improves to 10-1 with two wins

The No. 24 men's basketball team improved to 10-1 overall with two victories last week.

The Bears wrapped up non-conference play Jan. 3 with an 81-65 win at Webster University. Junior forward Troy Ruths scored 21 points in the victory on 8-of-9 shooting from the field. Junior Tyler Nading finished with 14 points and eight rebounds, while sophomore Sean Wallis had 10 points and eight assists.

Ruths scored a career-high 28 points Jan. 6 to lead the Bears to a 70-59 victory at the University of Chicago. Ruths, who was 11 of 12 from the field and 6 of 7 from the free-throw line, also eclipsed 800 points for his career (812) in the win. Wallis also had a career night for the Bears (1-0 UAA), scoring a career-high 25 points on 7-of-9 shooting from 3-point range.

Women's hoops wins one, loses one

The women's basketball team (8-4, 0-1 UAA) earned a split last week.

The Bears defeated Webster University, 71-29, Jan. 3. WUSTL opened the game on an 18-2 run. Senior forward Rebecca Parker had 11 points, while sophomore forward Jaimie McFarlin added five points and eight rebounds.

On Jan. 6, WUSTL began conference play with a 54-51 loss at Chicago. The Bears jumped out to an 11-5 lead, but Chicago rallied with an 11-2 run to take a 31-24 halftime lead. WUSTL tied the game at 42-42 when McFarlin hit back-to-back 15-foot jumpers; the Bears also were within one point in the final minute but could not regain the lead. McFarlin led the way with 15 points and seven rebounds, while Parker contributed 10 points and nine rebounds.

Snow Way Garage extension open

The Snow Way Garage Phase II parking facility opened Jan. 8, adding 327 parking spaces.

Construction to expand the garage, located east of Big Bend Boulevard on Snow Way Drive, began last May.

The two-level garage, north of the Athletic Complex, now has a total of 664 spaces, said Lisa Underwood, director of Parking and Transportation Services.

Parking permits are required. Red-permit spaces are at the east end of the first level, with disabled spaces throughout. The remainder of the garage is zoned to be shared by yellow- and blue-permit holders, unless otherwise indicated.

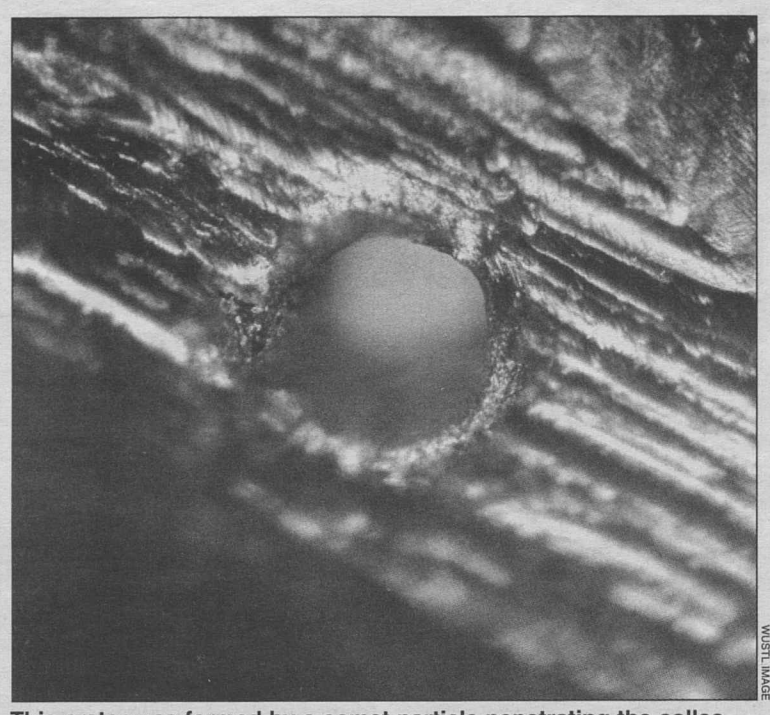
Users may enter the garage at either the east or west end; exit is allowed only at the west end. Snow Way Drive is one-way eastbound between Big Bend and the east entrance to the garage.

For more information, call 935-5601.

Test drive a fuel-efficient vehicle

Fuel-efficient technologies and vehicles from General Motors Corp. will be discussed in a program from 3-5 p.m. Jan. 25 in Whitaker Hall. Following the program, vehicles will be available for test drives in the parking lot beside Whitaker. Engineers from GM will demonstrate the vehicles and answer questions.

Pratim Biswas, Ph.D., the Stifel and Quinette Jens Professor and chair of energy, environmental & chemical engineering, will share the department's vision on energy and environment, including alternative fuels and energy sources, air quality research, nanoparticle technology and particle emission control.



WUSTL IMAGE

This crater was formed by a comet particle penetrating the collector's aluminum foil at a velocity of 14,000 mph. The stardust was found among the debris on the crater's outer rim.

Stardust

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received his team's first cometary material: three slices of one particle.

Wasting no time, Stadermann and his WUSTL team — Ernst K. Zinner, Ph.D., research professor of physics and of earth and planetary sciences in Arts & Sciences; Christine Floss, Ph.D., research associate professor of physics; and Kuljeet Kaur Marhas, Ph.D., postdoctoral research associate in physics — went right to work on it and, eventually, 10 other Stardust samples. The three researchers also are co-authors on the Science article.

Kevin D. McKeegan, Ph.D., professor of geochemistry at UCLA, is first author on the article. McKeegan earned a doctorate in physics from WUSTL in 1987, with Zinner serving as his adviser. In addition to McKeegan, five other WUSTL alumni are either first or co-authors on some of the seven Science articles.

Brigitte Wopenka, Ph.D., senior research scientist in earth and planetary sciences and a member of the McDonnell Center for the Space Sciences in Arts & Sciences, is a co-author on two of the Science articles. As the other WUSTL researcher to receive Stardust samples to study, Wopenka is using a technique called Raman microprobe spectroscopy to characterize the inorganic composition and carbonaceous organic make-up of individual cometary dust grains.

From the 'cosmic freezer'

Using the University's state-of-the-art ion probe, the NanoSIMS (Secondary Ion Mass Spectrometer), Stadermann's team analyzed the particles' elemental and isotopic composition.

The NanoSIMS, which Stadermann and Zinner helped design and test, can resolve objects as small as 50 nanometers — one thousand times smaller than the diameter of a human hair.

The first NanoSIMS instrument in the world was purchased by WUSTL in 2000 for $2 million, with partial support from NASA, the National Science Foundation and the McDonnell Center for the Space Sciences.

The measurements at WUSTL yielded a unique result providing a key component for our understanding of the composition and origin of comets, Stadermann said.

"When we made the discovery of the stardust grain in the comet sample, we were very excited, and we immediately knew that this little particle, although it is only 1/100,000 of an inch in diameter, would be one of the most important findings of the comet dust analysis," Stadermann said.

"This discovery proves that comets comprise dust grains from outside the solar system in addition to the many other components that were formed inside the solar system," he continued. "The fact that these very different ingredients survived side-by-side in the comet shows how well the material was preserved in this 'cosmic freezer' for the past 4.5 billion years.

"NASA picked the name 'Stardust' for this mission many years ago," Stadermann noted. "Only because of our measurement here at Washington University we now know that the comet really does contain true stardust."

Scientists hope the Stardust findings will provide answers to fundamental questions about comets, the origin of the solar system and possibly even the origin of life itself.

This discovery complements ongoing research in the Laboratory for Space Sciences, which is part of the departments of Physics and of Earth and Planetary Sciences and the McDonnell Center for the Space Sciences.

"We certainly have a lot of expertise in analyzing small grains," Zinner said of the Laboratory for Space Sciences research group. "We have worked on interplanetary dust particles since the late '70s and have been involved in the discovery of many types of presolar grains — 'stardust' in the literal sense — since 1987."

In 1987, Zinner and WUSTL colleagues and scientists at the University of Chicago found the first stardust in a meteorite. Those presolar grains were specks of diamond and silicon carbide.

Since then, members of WUSTL's space sciences lab have played leading roles in analyzing these grains in the laboratory and interpreting the results.

"With the NanoSIMS, we have an instrument that is ideally suited to the analysis of such grains," Zinner said. "The finding of stardust in meteorites and now comets gives us information about the early solar system."

"The parent bodies of primitive meteorites [asteroids] formed in different places, closer to the sun, than comets, which formed farther away," Zinner continued. "The preservation of stardust in both types of solar system bodies tells us something about their formation history. However, at present we have evidence for only one stardust grain in cometary material, making it a little early to make far-reaching conclusions."

Floss added: "The preliminary examination of the comet samples is only the first step, and it is clear that we will continue to study such samples for years to come. There are so many questions about the early solar system for which the answers are still hidden in these tiny dust particles."

To watch a video on this story, visit news-info.wustl.edu/news/page/normal/8428.html.

Berg

– from Page 1

es underlying Alzheimer's disease begin taking a toll on the brain decades prior to the disease's first clinical symptoms, the MAP has provided researchers with valuable insights into subtle changes that may one day be used as markers of the disease's onset. Such markers now are regarded by many as an essential step for successful treatment of Alzheimer's disease.

In 1985, Berg was awarded a grant from the National Institute on Aging (NIA) to establish the Alzheimer's Disease Research Center (ADRC) at the School of Medicine and Barnes Hospital. The center continues to be funded by the NIA and other agencies, supporting the work of several Alzheimer's researchers recognized in recent years with the field's highest awards. Berg stepped down as director of the center in 1997.

"Leonard Berg founded the Alzheimer's disease research program at Washington University and led it to international prominence," said John C. Morris, M.D., the Friedman Distinguished Professor of Neurology and current director of the ADRC. "He also was an esteemed neurologist and, for me and many others, a valued mentor and friend."

Since 1997, the ADRC, with support from industry, has hosted a biennial Alzheimer's research symposium in Berg's honor.

"Leonard was a visionary clinician-scientist promoting Alzheimer's disease research and clinical care at Washington University," said David Holtzman, M.D., the Andrew B. and Gretchen P. Jones Professor and head of the neurology department. "The buzzword now at the NIH and around academia is translational research, but Leonard was doing cutting-edge translational research 30 years ago. I respected him as a physician-scientist as much as anyone I have known. As a person, he was a true mensch."

"Leonard was a visionary clinician-scientist promoting Alzheimer's disease research and clinical care at Washington University. The buzzword now at the NIH and around academia is translational research, but Leonard was doing cutting-edge translational research 30 years ago. I respected him as a physician-scientist as much as anyone I have known."

DAVID HOLTZMAN

Berg was a member of the American Medical Association, the American Academy of Neurology, the American Neurological Association, the Society for Neuroscience and the Society for Experimental Pathology.

Berg's many leadership positions included terms as president of the American Board of Psychiatry and Neurology in 1985, chairman of the Missouri State Advisory Board on Alzheimer's Disease and Related Disorders from 1988-1995 and chairman of the national Alzheimer's Association's Medical and Scientific Advisory Council from 1991-95. He was a member of the National Scientific Advisory Council of the American Federation for Aging Research for more than a decade and served on a Congressional Advisory Panel on Alzheimer's Disease from 1993-95.

Born in St. Louis July 17, 1927, Berg graduated from the University in 1945 and from the medical school in 1949. After serving internships and residencies at Barnes Hospital, the Neurological Institute of New York at Columbia-Presbyterian Medical Center and the National Institutes of Health, Berg joined the medical school's faculty as a community-based member of the voluntary faculty in 1955. He became professor of clinical neurology in 1972. Berg joined the school's full-time faculty as a professor of neurology in 1989 and moved his clinical practice into the school's neurology department. In addition to Barnes Hospital, now Barnes-Jewish Hospital, Berg provided care for patients and consulted on medical cases at St. Louis Children's Hospital, St. Louis Shriner's Hospital for Crippled Children and St. Louis Regional Hospital.

Berg is survived by his wife of nearly 59 years, Gerry Berg; two daughters, Kathy and Nancy; son John, his wife, Christine, and their daughter, Katie. John Berg is an associate vice chancellor and Christine Berg is a member of the faculty of the Program in Occupational Therapy.

A private family service and burial are arranged. Plans for a later public memorial service are pending.

Memorial donations may be made to the Alzheimer's Disease Research Center. Call 286-2881 for more information or send to: ADRC-WUSTL, 4488 Forest Park Ave., Suite 130, St. Louis, Mo., 63108.

Big Read

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pleasure among American adults. The Big Read aims to address this issue directly by providing citizens with the opportunity to read and discuss a single book within their communities.

"With The Big Read, we want to get everyone in a community — from high school kids and office workers to public officials and senior citizens — reading a great book together," said NEA Chair Dana Gioia. "Our goal is to get people talking about 'Fahrenheit 451' — with the same conviction that they debate the World Series."

"Of the books on the NEA's recommended list, 'Fahrenheit 451' is the one that most profoundly raises the all-important question of the utility of books," said David A. Lawton, Ph.D., professor and chair of English.

"Now that the Internet presents a more fundamental challenge even than Bradbury's fire to the continued viability of books, we will have an opportunity to explore the viability of books as well as other printed and electronic mediums and their roles in developing an informed and inquiring citizenry," Lawton continued.

Lawton, who is spearheading The Big Read at WUSTL with Cheryl Adelstein, director of community relations, added: "The University and its partners are excited to facilitate public discourse on the themes of 'Fahrenheit 451' — censorship and the repression of knowledge. The ability to address these issues thoughtfully in public conversation is essential to the development of citizens who are engaged in their communities and in the pursuit of learning."

Lawton will launch one of the first events in conjunction with the program when he speaks for the Assembly Series Jan. 24. His talk is titled "Burning to Read" and will be delivered at 11 a.m. in Graham Chapel. This is the first Assembly Series lecture of the spring semester. (The complete spring Assembly Series lineup will appear in the Jan. 25 issue of the Record.)

Jan. 26-27 will feature the Dystopic Numbers Film Festival at 7 p.m. each night in Brown Hall, Room 100. Screenings Jan. 26 will include the 28-minute film "La Jetée" (1962) by Chris Marker and François Truffaut's "Fahrenheit 451" (1966). Jan. 27 screenings are "The Eyes of the Birds" (1983) directed by Gabriel Auer and "Ghost in the Shell 2" (2004) directed by Mamoru Oshii.

In February, The Kemper Art Museum will feature the exhibit "Reality Bites: Making Avant-Garde Art in Post-Wall Germany." This exhibit explores the specific nature of art made in Germany since the fall of the Berlin Wall in 1989. It focuses on a new generation of international artists working in Germany and addresses their varied attempts to challenge the relation between art and the everyday in the transformed society of post-Wall Germany. An education guide will supplement specific themes of "Fahrenheit 451."

Feb. 13-14 will see Somali author Nurrudin Farah read selections from his work. He'll read at 8 p.m. Feb. 13 in Holmes Lounge, Ridgley Hall and again at 11 a.m. Feb. 14 in a location to be determined, as part of the Assembly Series.

Farah has been called the greatest living African novelist. His works enthrall with hazards of life in his native Somalia and were banned there for years.

At 6:30 p.m. Feb. 16 at the Kemper Museum, there will be a staged reading from "Fahrenheit 451" featuring docent-led tours of the "Reality Bites" exhibit.

Los Angeles-based troupe The Actors Gang will perform George Orwell's "1984" in Edison Theatre at 8 p.m. Feb. 16-17, including post-performance discussion on the worlds described by both Bradbury and Orwell.

To learn more about The Big Read and view a complete calendar of events, visit bigread.wustl.edu or call 935-4407.

Campus book discussions

Campus book discussion groups specifically for faculty and staff are scheduled for the following dates and locations. All discussions start at noon except where noted.

Feb. 2: Barnes & Noble, Euclid Avenue and Children's Place, 1 p.m.
Feb. 7: Duncker Hall, Hurst Lounge, Room 201
Feb. 8: West Campus, Room C
Feb. 9: Danforth Campus, Goldfarb Hall, Room 124
Feb. 15: Mallinckrodt Student Center, Lambert Lounge
Feb. 20: North Campus, Room 1312
Feb. 23: Duncker Hall, Hurst Lounge, Room 201

Notables

Rafia Zafar receives Fulbright grant

By Susan Killenberg McGinn

Rafia Zafar, Ph.D., professor of English, of African & African American studies and of American culture studies, all in Arts & Sciences, has been awarded a Fulbright Scholar grant to lecture abroad during the 2007 spring semester.

She has been awarded the distinguished Walt Whitman Chair, which includes teaching an advanced undergraduate course and a graduate seminar at Utrecht University in the Netherlands, according to the U.S. Department of State and the J. William Fulbright Foreign Scholarship Board.

The Whitman chair is part of the Fulbright Distinguished Chairs Program and is considered among the most prestigious appointments in the Fulbright Scholar Program.

"Rafia Zafar has made an enormous contribution here to the study of American and African-American literature and culture, not least as a sought-after graduate adviser," said David A. Lawton, Ph.D., chair and professor of English.

"She also performs great service, both in the University and in the profession nationally," Lawton continued. "She has a broad field of expertise. She is an internationally acknowledged authority on the Harlem Renaissance, and her work on food is groundbreaking.

"It's wonderful to see her receive this thoroughly deserved honor, which recognizes and will further enhance her national and international reputation," he added.

Recipients of Fulbright awards are selected on the basis of academic or professional achievement, as well as demonstrated leadership potential in their fields.

Alan R. Templeton, Ph.D., the Charles Rebstock Professor of biology in Arts & Sciences, also received a distinguished chair for the 2007 spring semester. He will travel to Israel as the Fulbright-Israel Distinguished Chair in the Natural Sciences and Engineering, beginning his six-month assignment in February. (See March 24, 2006, Record story at record.wustl.edu/news/page/normal/6795.html.)


Zafar

Zafar, a specialist in 19th-century American literature and in African-American literature, will teach a graduate seminar titled "Food, Race & Ethnicity in American Literature" and an undergraduate course on the Harlem Renaissance at Utrecht University.

During her four-month stay, which begins at the end of January, she will give lectures at other universities, including Leiden University in the Netherlands and the University of Regensburg in Germany.

Zafar, who is writing a book about the impact of food in creating American literary identity, will be a guest lecturer in Leiden's lecture series titled "The Civil Rights Movement: Fifty Years After."

Scholars from the Netherlands and a number of prominent international scholars and civil rights activists from the United States will participate, including Martin Luther King biographer and Pulitzer Prize-winner David J. Garrow.

In Zafar's talk, she will draw on her book in progress, "And Called It Macaroni: Eating, Writing, Becoming American," and discuss how the act of eating together, specifically the famed lunch counter sit-ins, helped win the battle for civil rights.

In addition to her current book, Zafar co-edited the memoirs of her great-great-grandfather, "God Made Man, Man Made the Slave: The Autobiography of George Teamoh" (Mercer University Press, 1990), who during Reconstruction became one of the first black officeholders in Virginia.

She also co-edited "Harriet Jacobs and Incidents in the Life of a Slave Girl: New Critical Essays" (Cambridge University Press, 1996).

Zafar's study of early black writers, "We Wear the Mask: African Americans Write American Literature, 1760-1870," was published by Columbia University Press in 1997.

Zafar, who joined the WUSTL faculty in 1998 and served four years as director of the African & African American Studies program, earned a doctorate in the History of American Civilization from Harvard University and a master's in English & Comparative Literature from Columbia University. Her bachelor's degree in English is from City College of New York.

She is one of approximately 800 U.S. faculty and professionals who will travel abroad during the 2006-07 academic year through the Fulbright Scholar Program.

Established in 1946 under legislation introduced by the late Sen. J. William Fulbright of Arkansas, the program's purpose is to build mutual understanding between the people of the United States and the rest of the world.

WUSTL honored with Award of Excellence

By Beth Miller

Washington University has received an Award of Excellence from the Health Improvement Institute for the merger of its multiple Institutional Review Boards (IRB).

The best practice awards are given for demonstrated excellence in promoting the well-being of people who participate in research.

The University merged its Danforth Campus and School of Medicine IRBs last summer to further improve the University's already nationally recognized programs, to achieve even higher levels of responsiveness and effectiveness in protecting research participants and to enhance the University's reputation among other institutions and within the national IRB arena, Chancellor Mark S. Wrighton wrote in a July 2005 letter to faculty and staff.

In addition, the move was designed to incorporate systems for continuously improving the services provided to University researchers.

The functions of the two IRB offices were combined into the Human Research Protection Office (HRPO), under Larry J. Shapiro, M.D., executive vice chancellor for medical affairs and dean of the medical school. Shapiro also participates on an HRPO advisory board chaired by Samuel L. Stanley Jr., M.D., vice chancellor of research.

Philip Ludbrook, M.D., associate dean for human studies and professor of medicine and of radiology, is chair of the HRPO.

When the consolidation was announced in July 2005, a Faculty Advisory Work Group was established to find the most effective method of IRB review of research in the behavioral sciences. The group endorsed two subcommittees to review the research by type: biomedical or behavioral.

"About two years ago, the biomedical research IRB at the medical school and the behavioral research IRB at the Danforth Campus received full accreditation from the Association for Accreditation of Human Research Protection Programs," Ludbrook said. "This prestigious award acknowldges full compliance with the high regulatory, ethical, legal and business standards required by AAHRPP.

"The recent Award of Excellence and previous Best Practice Awards by the HII affirm the national stature of the Washington University HRPO in the human research community at large," Ludbrook said.

Rose Walker, executive director of the HRPO, said there is an average of 3,200 protocols reviewed annually at the medical school and about 350-400 at the Danforth Campus.

"When we were discussing this merger, the Danforth faculty had many concerns," Walker said. "But we streamlined the application process by implementing an electronic IRB system that would consider the differences in the information needed for behavioral and biomedical research studies."

The Bethesda, Md.-based Health Improvement Institute is a non-profit organization dedicated to improving the quality and productivity of America's health care.

Obituaries

Gee, former president of Jewish Hospital, 78

David A. Gee, long-time president of the former Jewish Hospital and professor at the School of Medicine, died of complications from pneumonia Tuesday, Dec. 5, 2006, at Missouri Baptist Medical Center. He was 78.

Gee earned a master's in health administration from the medical school in 1951.

He served in various administrative positions at Jewish Hospital from 1951-1964, when he became executive director. He was president of the hospital from 1968-1995.

He was a professor of health administration at the medical school for 25 years and continued his association with the University through the Lifelong Learning Institute, an affiliate of the Elderhostel Institute Network.

He wrote 65 articles and books and was a frequent contributor of letters and editorials to the St. Louis Post-Dispatch.

Gee is survived by his wife, Mary E. "Betsy" Gee; three sons, Thomas H. Gee, John D. Gee and William M. Gee, M.D., an instructor of clinical medicine at the medical school; a daughter, Kimberley Gibson; and 10 grandchildren.

A memorial service was held Dec. 9 at St. Timothy Episcopal Church.

Memorial contributions may be made to the Lifelong Learning Institute at Washington University, P.O. Box 1154, 7425 Forsyth Blvd., St. Louis, Mo., 63105.

Strong, research engineer in Genome Sequencing Center, 36

By Beth Miller

Joseph T. Strong, research engineer in the Genome Sequencing Center (GSC) at the School of Medicine, died in a bicycle accident Saturday, Dec. 23, 2006, in south St. Louis County. He was 36.

Strong, a University employee for nearly 10 years, was a mechanical engineer in the GSC's technology development group, where he designed, built and maintained robotic instrumentation.

"He was very skilled in helping us build robotics that nobody else could build," said Elaine Mardis, Ph.D., associate professor of genetics and co-director of the GSC. "He was also a mentor to many people in the group because of his background and knowledge."

Mardis continued, "Joe was very helpful by nature and had a wonderful sense of humor."

Strong recently had moved into a management role at the center.

"He was really laid back, down to earth and loved in the department," said Kelly Carpenter, manager of technical services at the center.

Carpenter continued, "His work helped the genome project go forward."

Described by co-workers as "an all-around good guy," Strong enjoyed refurbishing old cars, including Volkswagen Beetles and an Austin Healey "Bugeye" Sprite. He had won competitions for his work on the cars.

Strong is survived by his wife, Cindy, research lab manager in the GSC; sons, Benjamin, 2, and Steven, 4 months; his parents; and seven sisters.

Memorial contributions may be made at any UMB Bank to individual accounts established for Benjamin and Steven Strong.

Bolles, 87

William Lawrence Bolles, a former visiting professor in the School of Engineering & Applied Science, died Sunday, Dec. 17, 2006. He was 87.

University's bond rating is highest-possible Aaa

By Andy Clendennen

Moody's Investors Service has upgraded the University's debt rating to Aaa from Aa1 and assigned an Aaa rating to the Series 2007 A and B fixed-rate bonds to be issued through the Missouri Health and Educational Facilities Authority.

The Aaa rating is the highest level offered by Moody's.

According to Moody's, the upgrade reflects the University's superior levels of liquid financial resources, improved student market position, consistently positive operations and Moody's expectation of continued careful evaluation of future capital projects and manageable additional borrowing plans.

"We are very pleased and feel honored to be among those with a Moody's triple-A rating," University Treasurer Amy B. Kweskin said.

Moody's highlighted several financial strengths of the University, including:

- Steady, long-term improvement in undergraduate student market position, placing the University among the nation's most selective universities, combined with a broad array of reputable graduate programs.
- Superior unrestricted balance sheet resources providing financial flexibility and sturdy support for debt and operations.
- Nationally prominent research programs in medicine and related fields that drive the University's enhanced local and national reputation and engender strong philanthropic support.
- Consistently strong operating performance with well diversified revenue base.

In December 2004, Standard & Poors rated the University AAA, and combined with the recent Moody's rating, the University is among the top-rated in the country.

"We only rate 18 schools in our private higher education portfolio of 275 credits Aaa," said Moody's analyst Kimberly Tuby. "It's just a small group."

The University is among nine private research universities rated Aaa by Moody's.

Obituary

Schaerf, 98

Henry Schaerf, Ph.D., associate professor emeritus of mathematics in Arts & Sciences, died Sunday, March 5, 2006, in Seattle, two weeks before his 99th birthday. He was one of the many scientists who left Europe for the United States due to the political turmoil of the 1930s and '40s. He was on the mathematics department faculty from 1947-1975.

Washington People

DAVID KILPER

Carmon Colangelo (left) speaks with Tom Reed, master printer, at Island Press, the University's professional print shop in Bixby Hall.

A unifying presence

Carmon Colangelo brings together various disciplines in Sam Fox School

BY LIAM OTTEN

Since arriving on campus last July, Carmon Colangelo, inaugural dean of the Sam Fox School of Design & Visual Arts, has been a busy man.

In August, the Sam Fox School — which combines distinguished programs in art and architecture with one of the nation's finest university museums — formally began classes as a single academic and administrative unit.

In September, Colangelo debuted "Configured/Disfigured," an exhibition of prints, at the Bruno David Gallery. That same month, he was installed as the E. Desmond Lee Professor for Community Collaboration in the Arts.

In October, the Sam Fox School hosted more than 1,300 visitors for the dedication of two new buildings — the Kemper Art Museum and the Earl E. and Myrtle E. Walker Hall — designed by Pritzker Prize-winning architect Fumihiko Maki.

In November, Colangelo welcomed Bruce Lindsey as the new dean of the College of Architecture and Graduate School of Architecture & Urban Design. And the following month, "Configured/Disfigured" traveled to Atlanta's Sandler Hudson Gallery.

"Things have been a little hectic," Colangelo says. "In a way we're all still getting to know one another. But there's been a real sense of energy and there's a lot of common ground on which to build. Artists and architects can have very different ways of looking at things, but we use a lot of the same critical and analytic tools. The challenge is to become a unified school without losing those discipline-specific ideas or that sense of professional concentration."

Colangelo has the personality and skills to succeed amid the changes and challenges, colleagues say.

"Carmon is a thoughtful, knowledgeable and hard-working administrator as well as an artist of substance," says Jeff Pike, dean of the College of Art and the Graduate School of Art. "I have witnessed his sensitivity to the challenges of implementing the school's new structure and his attention to the concerns of those who have been affected by the changes. He leads through relationship-building."

Colangelo was born and raised in Toronto, the son of immigrants from the small mountain town of Monteleone di Puglia in southern Italy. His father, Pat, started out cutting hair at a local racetrack but eventually opened a small string of barbershops.

"My father saw himself as a businessman," Colangelo recalls. "He always wore a suit and tie, though we used to joke the only thing in his briefcase was a salami sandwich. But he was very entrepreneurial, and my parents really believed in education. It was just a given — a fact — that I was going to college."

As a young artist, Colangelo was deeply influenced by his parents' love for the old country and copied works by Michelangelo, Da Vinci and Rubens, among others. "Of course, my friends wanted me to airbrush their vans," Colangelo says.

After high school, he enrolled at the Ontario College of Art and Design, a local commuter school, but soon withdrew.

"A lot of students were older, with professional careers, and I realized I wasn't mature enough for that environment," he says.

So, to his father's chagrin, Colangelo spent the next year working construction. "He thought I'd never go back to school, but I kind of regrouped and applied to the University of Windsor [in Ontario]," he says. "It had a great art department but wasn't 'uppity' — just real serious, working-class art students."

Colangelo intended to study graphic design "or something practical," he says, but was surprised when a painting of his father won a regional show at the prestigious Art Gallery of Windsor. He also discovered lithography, a complex, labor-intensive process that involves drawing on stone typically with a grease pencil.

"I was fascinated by the alchemy," he recalls. "I loved the nasty chemicals; the physicality of lifting, graining and inking stones; the repetitive rhythms of working a press. And as a printmaker, you could do things 'serious' painters couldn't. You were allowed to be an illustrator or a satirist."

In 1981, Colangelo began graduate studies for a master of fine arts at Louisiana State University. Waiting to register for classes, he struck up a conversation with a classmate, Susan Berry. "She helped navigate the registration lines, and within a few weeks, we were dating," Colangelo says, laughing. "Our connection was pretty immediate."

The couple graduated in 1983 and married the following year. Carmon worked at the Open Studio, an artist-run printshop in downtown Toronto, and also took roofing work while teaching part-time at the Art Gallery of Ontario. But within a few months, he returned to LSU as a sabbatical replacement for a former professor.

"It was a weird experience," he says. "I was pretty shy, and some of my graduate students had been classmates. But once I started teaching, I realized how much knowledge I actually possessed and how great it felt to problem-solve and share that information."

In 1984, Colangelo took a job as printmaking coordinator at West Virginia University in Morgantown. Two years later, he also became graduate coordinator for the Division of Art and was named chair in 1993. Perhaps the highlight of his tenure came in 1996 when he co-organized "Remote Sensing," the 1996 Southern Graphic Council (SGC) Conference.

"We realized that technology was bringing us all closer together and theorized about a virtual world that would blur boundaries between disciplines and even nations," Colangelo explains. Some 800 printmakers from eight countries participated, doubling all previous SGC records. "More importantly, we demonstrated the viability of a broad, inclusive approach to printmaking, one that had room for everything from sound art to robotics."

Colangelo's own work also continued to evolve. "I became more and more experimental," he notes. "I started to think less about producing editions and more about open-ended concepts. How do you use the matrix to make unique images? How do you layer images to generate different combinations or create sequential pieces?"

In 1997, Colangelo became director of the Lamar Dodd School of Art at the University of Georgia. Under his leadership, he recruited more than two dozen full-time faculty and staff positions, increased graduate and teaching assistantships by 50 percent and completed pre-design for a new $41 million art facility. The school also renovated a 13th-century monastery in Cortona, Italy, for its study abroad program and hosted an international print and book arts symposium on new media and globalization.

All the while, Colangelo maintained an impressive exhibition schedule. In the past decade, his work has been featured in 20 solo shows and dozens of group exhibitions in Argentina, Canada, England, Italy, Korea, Mexico, Puerto Rico and across the United States.

Today, his work can be found in the National Museum of American Art in Washington, D.C.; the Whitney Museum of American Art in New York; and the Fogg Art Museum at Harvard University, among many others.

"Printmakers make good administrators because we know how to work together and we understand the concept of delayed gratification," Colangelo says.

Of course, the reality is a bit more complicated. In his first few months at Washington University, Colangelo reorganized art and architecture support staff, formed a committee to rewrite the school's governance document, took steps to streamline hiring and tenure procedures and lowered bureaucratic hurdles for students taking classes in both art and architecture.

"I think faculty are starting to feel more comfortable with one another," Colangelo says. "We're generating more collaborative classes, and there's a lot of agreement about which areas need attention. Technology and new media need attention, issues of the environment and sustainability need attention."

The Sam Fox School also is investigating a shared core curriculum for architecture and art, as well as potential initiatives in new media, landscape architecture and other areas. The school has committed to expanding its interdisciplinary master of fine arts program and is searching for a nationally recognized leader to direct the Graduate School of Art. Colangelo also plans to increase collaborative efforts with other University areas and to continue building the school's successful international programs.

Meanwhile, Colangelo's own work continues to combine traditional and innovative techniques. His recent diptych "Evolution" and "Devolution" employs translucent blue overprinting to suggest a television or computer screen. For "Gray's Anatomy," "Einstein's Bunny" and "Silkwood's Bones," the artist photographed and digitally printed original drawings, then added layers of silkscreen and wax, the latter wiped with ink, as in an intaglio process.

"I began improvising about popular mythologies relating to genetic research, bioengineering and cloning," Colangelo explains. "I intended them to be whimsical and non-confrontational, but they ended up a little bizarre and increasingly satirical."

Indeed, he often describes his work as a "phantasmagoria."

"Phantasmagoria refers to a kind of shadowy picture — one that encompasses many things and constantly changes our understanding or perception of reality," Colangelo says. "It speaks to the transient and the ephemeral, the fragile nature of life. It links the human spirit with the collective psyche and the eternal soul."

Carmon Colangelo

Education: Master of fine arts, printmaking, Louisiana State University, 1983; bachelor of fine arts, printmaking and painting, University of Windsor, Ontario, Canada, 1981

Selected collections: National Museum of American Art in Washington, D.C.; Whitney Museum of American Art in New York; Fogg Art Museum at Harvard University; Florida State Art Museum in Tallahassee; New York Public Library; Museo Nacional del Grabado Buenos Aires in Argentina; Nelson-Atkins Museum of Art in Kansas City

Family: Wife, Susan; daughters, Jessica (20), Ashley (18), Chelsea (12)

COURTESY OF THE ARTIST AND BRUNO DAVID GALLERY, ST. LOUIS

Carmon Colangelo's "Cornered" (2006), collagraph and digital print on paper, 42 x 30 inches.